

**REMARKS**

Entry of the foregoing amendments is respectfully requested.

**Summary of Amendments**

Upon entry of the foregoing amendments, claims 16-45 are cancelled and claims 46-75 are added, whereby claims 46-75 will be pending, with claims 46, 68 and 74 being independent claims.

Support for the new claims can be found throughout the present specification and in the cancelled claims. In particular, independent claim 46 corresponds generally to cancelled dependent claim 17, independent claim 68 corresponds to cancelled independent claim 38 and independent claim 74 corresponds generally to cancelled dependent claim 45.

Applicants emphasize that the cancellation of claims 16-45 is without prejudice or disclaimer, and Applicants expressly reserve the right to prosecute the cancelled claims in one or more continuation and/or divisional applications.

**Summary of Office Action**

Claims 16, 18-27, 35-37 and 42-44 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Shen, U.S. Patent No. 6,042,816 (hereafter “SHEN”).

Claims 17, 38-40 and 45 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over SHEN in view of Okada, US Patent Publication 2005/0265940 (hereafter “OKADA”).

Claims 28-34 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over SHEN in view of Gers-Barlag et al., US Patent Publication 2002/0077372 (hereafter “GERS”).

Claim 41 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over SHEN in view of OKADA in further view of GERS.

**Response to Office Action**

Reconsideration and withdrawal of the rejections of record are respectfully requested, in view of the foregoing amendments and the following remarks.

Applicants note that the independent claims submitted herewith correspond (generally) to cancelled claims 17, 38 and 45, which claims have been rejected as allegedly being unpatentable over SHEN in view of OKADA. Accordingly, Applicants refrain from commenting on the allegations which are set forth in the present Office Action in connection with the rejections of claims 16, 18-27, 28-34, 35-37 and 42-44 over SHEN, either alone or in view of GERS, without admitting however, that any of these allegations is meritorious.

Regarding the rejection of some of the cancelled claims over SHEN in view of OKADA the Examiner concedes that SHEN does not teach mandelic acid as hydroxycarboxylic acid or any percentages thereof. In this regard, the rejection essentially asserts that OKADA would have rendered it obvious to one of ordinary skill in the art to produce the formulations of SHEN with mandelic acid as hydroxycarboxylic acid. One of ordinary skill in the art would allegedly have been motivated to do so "because [SHEN] teaches odor control compositions comprising hydroxycarboxylic acids, including glycolic and lactic, and [OKADA] teaches odor control compositions comprising hydroxycarboxylic acids including glycolic, lactic and mandelic". Page 7,

next-to-last paragraph of Office Action.

Applicants respectfully disagree with the Examiner in this regard. In particular, contrary to what is alleged in the present Office Action, there is no motivation to combine the teachings of SHEN and OKADA because these two documents relate to completely different subject matter.

As correctly noted by the Examiner, OKADA relates to odor control (deodorant) compositions. However, SHEN does not relate to odor control compositions but to enhanced efficacy antiperspirant salts. In fact, it is not seen that odor control is even mentioned in SHEN. It should be apparent that deodorant compositions and antiperspirant salts are completely different, both with respect to the intended use and the active components thereof. For example, according to the abstract of OKADA the deodorant compositions disclosed therein are suitable especially for removing a chemical odor remaining in the hair after a permanent wave treatment. Clearly, such an application has nothing at all to do with controlling perspiration.

Further, even if one were to assume, *arguendo*, that there would be motivation for one of ordinary skill in the art to combine the teachings of SHEN and OKADA, it is apparent that he or she would not use mandelic acid as hydroxycarboxylic acid in the enhanced antiperspirant salts of SHEN.

In particular, the passage of SHEN relied on by the Examiner in this regard, col. 6, lines 45-62, states (emphasis added):

The compositions of the present invention also contain a water soluble amino and/or hydroxy acid which is effective in increasing and/or stabilizing the HPLC peak 4:3 area ratio of the antiperspirant salt. Such acids include amino-and/or hydroxy-substituted lower alkanoic acids (including substituted derivatives thereof), preferably where the amino or hydroxy group is located on the  $\alpha$ -carbon (i.e. the same carbon to which the carboxy group is attached). The lower alkanoic acid will generally have 2 to 6, preferably 2 to 4, carbon atoms

in the alkanoic acid chain. Typical amino and/or hydroxy substituted lower alkanoic acids include any of the amino acids such as glycine, alanine, valine, etc. and hydroxy acids such as glycolic acid and lactic acid. These amino and/or hydroxy substituted lower alkanoic acids may also contain various substituents which do not adversely affect their activity. The preferred amino and/or hydroxy substituted lower alkanoic acids are glycine, alanine, and glycolic acid, with glycine being most preferred.

Accordingly, the hydroxycarboxylic acids which are to be employed according to SHEN are hydroxy substituted lower alkanoic acids, preferably alkanoic acids having from 2 to 4 carbon atoms in the alkanoic acid chain. This clearly excludes an araliphatic acid such as mandelic acid (having a total of 8 carbon atoms).

Additionally, it must be taken into account that according to SHEN the hydroxy substituted lower alkanoic acids disclosed therein are to be employed in combination with a soluble calcium salt (see, e.g., claim 1 of SHEN). As can be taken from, e.g.,

[http://books.google.com/books?id=Owuv-c9L\\_IMC&pg=PA618&pg=PA618&dq=soluble+calcium+mandelate+source=bl&ots=zVs-siTcb&sig=lcChVCOYa24E3XvLMZx1OVO7L9c&hl=en&ei=gi44Sue9F9CptgeA3tXiDA&sa=X&oi=book\\_result&ct=result&resnum=3](http://books.google.com/books?id=Owuv-c9L_IMC&pg=PA618&pg=PA618&dq=soluble+calcium+mandelate+source=bl&ots=zVs-siTcb&sig=lcChVCOYa24E3XvLMZx1OVO7L9c&hl=en&ei=gi44Sue9F9CptgeA3tXiDA&sa=X&oi=book_result&ct=result&resnum=3)

calcium mandelate is only slightly soluble in water. Accordingly, using mandelic acid in combination with a soluble calcium salt will very likely result in the precipitation of calcium mandelate. This is a disincentive rather than a motivation to use mandelic acid for the purpose disclosed in SHEN.

Even further, there is no apparent relationship between the function and use of the hydroxy substituted alkanoic acid of SHEN and the hydroxy acid for use in the compositions of OKADA. In particular, in the enhanced antiperspirant salts of SHEN the hydroxy substituted alkanoic acid is used in combination with a soluble calcium salt to stabilize an aqueous solution of an enhanced efficacy aluminum or aluminum-zirconium antiperspirant salt against rapid degradation (see, e.g.,

claim 1 of SHEN).

In contrast, according to OKADA a hydroxy acid salt of a divalent metal may be used as a deodorizing agent which is suitable for incorporation into a shampoo, treatment agent, etc. (see abstract of OKADA). In particular, paragraphs [0005], [0012] and [0021] of OKADA state (emphasis added):

[0005] It is an object of the present invention to provide a deodorant that is suited to the removable of various odors encountered in daily life, and especially the chemical smell that remains on head hair after a permanent wave treatment. The inventor conducted various investigations aimed at solving this problem. As a result, the inventor learned that using a deodorizing antibacterial agent comprising a combination of a divalent metal ion such as a copper ion and a hydroxy acid, a fatty acid or another such organic acid ingredient, or a specific chelating agent allows odors after a permanent treatment to be effectively eliminated, and causes minimal irritation to the head hair and skin.

[0012] The active ingredient in the deodorant of the present invention against acidic odors such as amines and mercaptans is believed to be a divalent metal ion. The active ingredient against basic odors such as ammonia in this deodorant is believed to be a hydroxy acid radical, fatty acid radical, or the like.

[0021] Of the various organic acid salts, examples of hydroxy acid metal salts include hydroxy acid copper salts, hydroxy acid zinc salts, and hydroxy acid iron salts. Examples of the hydroxy acid ingredient of these hydroxy acid metal salts include gluconic acid and other such aldonic acids, as well as saccharic acid and other such saccharide oxides, and various other hydroxy acids such as ascorbic acid, dehydroascorbic acid, lactic acid, malic acid, tartaric acid, citric acid, glycolic acid, hydroxybenzoic acid, gallic acid, mandelic acid, and tropic acid. Of these, gluconic acid, malic acid, and citric acid are preferable, and gluconic acid is particularly favorable. Therefore, copper gluconate and zinc gluconate are preferred.

In other words, the hydroxy acids of OKADA are not used as such but in the form of metal salts and in particular, salts of copper, zinc and iron. Moreover, these salts are not used to stabilize anything, let alone an aqueous solution of aluminum or aluminum-zirconium antiperspirant salts, but are used to permanently eliminate acidic odors such as amines and mercaptans. Additionally, even according to OKADA (a metal salt of) mandelic acid is not a preferred acid. The preferred acids of OKADA are gluconic acid, malic acid, and citric acid, i.e., acids which have hardly anything in

common with mandelic acid.

Applicants submit that for at least all of the foregoing reasons, SHIN in view of OKADA (and/or GERS) is unable to render obvious the subject matter of any of the claims submitted herewith. In view thereof, withdrawal of the rejections under 35 U.S.C. § 103(a) clearly is warranted.

**CONCLUSION**

In view of the foregoing, it is believed that all of the claims in this application are in condition for allowance, which action is respectfully requested. If any issues yet remain which can be resolved by a telephone conference, the Examiner is respectfully invited to contact the undersigned at the telephone number below.

Respectfully submitted,  
Ulrike SCHULZ et al.

  
Neil F. Greenblum  
Reg. No. 28,394

July 6, 2009  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 Roland Clarke Place  
Reston, Virginia 20191  
(703) 716-1191

  
Heribert F. Muensterer  
Reg. No. 50,417